Amendments to the Claims:

1. (Currently Amended) An optical pick-up device, comprising:

a light source that emits a light beam;

a holographic optical element having a birefringence medium and an isotropy medium, for adjusting an optical route of the light beam according to a polarizing direction and wavelength of an incident beam; and

an objective lens for focusing the light beam coming through the holographic optical element into an optical disk in response to a wavelength of the light beam,

wherein the birefringence medium shapes a concentric circle on a perpendicular plane in the moving direction of the beam, forms a saw tooth shape in a radial direction, and a plane of the saw tooth of the birefringence medium forms a boundary layer by being adhered closely to the isotropy medium.

2. (Cancel)

3. (Currently Amended) The device as set forth in claim ~~2~~3, wherein the birefringence medium and the isotropy medium are sequentially placed in a moving direction of the light beam.

4. (Original) The optical pick-up device of claim 3, wherein the birefringence medium is in a concentric circle shape on a perpendicular plane in the moving direction of the light beam, and forms a saw tooth shape in a radial direction, and a plane of the saw tooth of the birefringence medium forms a boundary layer with the isotropy medium.

5. (Original) The optical pick-up device of claim 4, wherein the saw tooth shaped birefringence medium includes a stepped surface.

6. (Original) The optical pick-up device of claim 1, wherein if the light beam for a high-density disk is incident into the holographic optical element, the birefringence medium is selected so that a reflective index (n 1_high) of the isotropy medium and a reflective index (ne _high) of an extraordinary ray of the birefringence medium are the same.

7. (Original) The optical pick-up device of claim 6, wherein if the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium of the extraordinary ray are selected to be the same, a polarizing direction of the light beam for the incident high-density disk is the same as that of the extraordinary ray.

8. (Original) The optical pick-up device of claim 6, wherein if the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium of the extraordinary ray are selected to be the same, the polarizing direction of the light beam for an incident low-density disk is perpendicular to that of the light beam for the high-density disk.

9. (Original) The optical pick-up device of claim 7, wherein if the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium of the extraordinary ray are selected to be the same, the polarizing direction of the light beam for an incident low-density disk is perpendicular to that of the light beam for the high-density disk.

10. (Original) The optical pick-up device of claim 6, wherein if the birefringence medium is selected so that the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium for the extraordinary ray in the light beam for the high-density disk are the same, diffraction efficiency of the light beam for the low-density disk is adjusted in response to a depth of the birefringence medium.

11. (Original) The optical pick-up device of claim 1, wherein if the light beam for a high-density disk is incident into the holographic optical element, the birefringence medium is selected so that a reflective index (n 1_high) of the isotropy medium and a reflective index (ne _high) of an ordinary ray of the birefringence medium are the same.

12. (Original) The optical pick-up device of claim 11, wherein if the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium of the extraordinary ray are selected to be the same, a polarizing direction of the light beam for the incident high-density disk is the same as that of the ordinary ray.

13. (Original) The optical pick-up device of claim 11, wherein if the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium of the extraordinary ray are selected to be the same, the polarizing direction of the light beam for an incident low-density disk is perpendicular to that of the light beam for the high-density disk.

14. (Original) The optical pick-up device of claim 12, wherein if the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium of the extraordinary ray are selected to be the same, the polarizing direction of the light beam for an incident low-density disk is perpendicular to that of the light beam for the high-density disk.

15. (Original) The optical pick-up device of claim 12, wherein if the birefringence medium is selected so that the refractive index (n1_high) of the isotropy medium for the light beam for the high-density disk and the refractive index (ne_high) of the birefringence medium for the extraordinary ray in the light beam for the high-density disk are the same, diffraction efficiency of the light beam for the low-density disk is adjusted in response to a depth of the birefringence medium.

16. (Currently Amended) An optical pick-up device, comprising:

a light source that emits a first light beam having a first predetermined wavelength;

a holographic optical element having a birefringence medium and an isotropy medium, for adjusting an optical route of the first light beam according to a polarizing direction and wavelength, wherein the isotropy medium has at least first and second isotropy refractive indexes, and the birefringence medium has first and second ordinary refractive indexes and first and second extraordinary refractive indexes in response to the wavelengh of the first light beam; and

an objective lens for focusing the first light beam coming through the holographic optical element on an optical disk in response to a wavelength of the first light beam

wherein the first isotropy refractive index is substantially the same as the first extraordinary refractive index.

17. (Cancel)

18. (Original) The optical pick-up device of claim 16, wherein the first isotropy refractive index is substantially the same as the first ordinary refractive index.

19. (Original) The optical pick-up device of claim 16, wherein the second isotropy refractive index is different from the second extraordinary refractive index.

20. (Original) The optical pick-up device of claim 16, wherein the second isotropy refractive index is different from the second ordinary refractive index.

21. (Currently Amended) The optical pick-up device of claim ~~17~~16, wherein the first isotropy refractive index is substantially the same as the first ordinary refractive index.

22. (Original) The optical pick-up device of claim 21, wherein the second isotropy refractive index is different from the second extraordinary refractive index.

23. (Original) The optical pick-up device of claim 22, wherein the second isotropy refractive index is different from the second ordinary refractive index.

24. (Original) The optical pick-up device of claim 16, wherein the first light beam having the first predetermined wavelength polarized in a first direction passes through the isotropy medium while being subjected to the first isotropy refractive index and passes through the birefringence medum while being subjected to the first ordinary refractive index.

25. (Original) The optical pick-up device of claim 16, wherein the first light beam having the first predetermined wavelength polarized in a first direction passes through the isotropy medium while being subjected to the first isotropy refractive index and passes through the birefringence medum while being subjected to the first extraordinary refractive index.

26. (Original) The optical pick-up device of claim 16, wherein when the light source emits a second light beam having a second predetermined wavelength polarized in a second direction, the second light beam passes through the isotropy medium while being subjected to the second isotropy refractive index and passes through the birefringence medum while being subjected to the second ordinary refractive index.

27. (Original) The optical pick-up device of claim 16, wherein when the light source emits a second light beam having a second predetermined wavelength polarized in a second direction, the second light beam passes through the isotropy medium while being subjected to the second isotropy refractive index and passes through the birefringence medum while being subjected to the second extraordinary refractive index.

28. (Original) The optical pick-up device of claim 16, wherein the birefringence medium is in a concentric circle shape having a substantially saw tooth cross-sectional shape, the concentric circle shape arranged on a plane substantially perpendicular to a light beam travel path, and wherein the birefringence medium abuts against the isotropy medium.

29. (Currently Amended) A holographic optical element for use in an optical pick-up device having a light source that emits a first light beam having a first predetermined wavelength and an objective lens for focusing the first light beam coming through the holographic optical element on an optical disk in response to a wavelength of the first light beam, the holographic optical element comprising:

a birefringence medium and an isotropy medium, for adjusting an optical route of the first light beam according to a polarizing direction and wavelength, wherein the isotropy medium has at least first and second isotropy refractive indexes, and the birefringence medium has first and second ordinary refractive indexes and first and second extraordinary refractive indexes in response to the wavelengh of the first light beam

wherein the first isotropy refractive index is substantially the same as the first extraordinary refractive index.

30. (Cancel)

31. (Original) The holographic optical element of claim 29, wherein the first isotropy refractive index is substantially the same as the first ordinary refractive index.

32. (Original) The holographic optical element of claim 29, wherein the second isotropy refractive index is different from the second extraordinary refractive index.

33. (Original) The holographic optical element of claim 29, wherein the second isotropy refractive index is different from the second ordinary refractive index.